

XIV.—*On a Collection of Mammals obtained in Somaliland by Major H. N. Dunn, R.A.M.C., with Descriptions of Allied Species from other Localities.* By OLDFIELD THOMAS, F.R.S.

MAJOR H. N. DUNN, R.A.M.C., to whom the National Museum was indebted for the interesting collection of Soudanese mammals described last year\*, spent the winter and spring in Somaliland, attached to the Abyssinian contingent taking part in the expedition against the Mullah. As usual, he made as good a collection of mammals as was possible under the circumstances, and has been rewarded by finding a considerable number of new forms, which are here described.

Most of the collection was made in Central Somaliland on the red sandy and stoneless Haud, the fauna of which appears to be peculiar in many respects. The vivid reds of such animals as *Herpestes ochraceus perfulvidus*, *Xerus rutilus intensus*, and *Ammodillus imbellis* are a notable feature of the mammalian fauna, as is the reduction in size found in other types, such as the pigmy leopard (*Felis pardus nanopardus*) and Somali wild dog (*Lycaon pictus somalicus*).

Major Dunn has again presented the whole of his interesting and valuable collection to the National Museum.

1. *Galago* sp.

♂. 128; ♀. 127. Fafan, 35 miles east of Harar.  
Allied to *G. teng*, Sund.

It is probable that all the members of the *G. moholi* group, including *G. teng*, *G. gallarum*, &c., should be looked upon as local subspecies of one widely distributed species.

2. *Megaderma cor*, Peters.

♂. 134, 135. Gerlogobi.

3. *Felis pardus nanopardus*, subsp. n.

♂ ♀. 40 miles west of Gorahai.

A leopard of the ordinary African desert type, but conspicuously smaller than any other member of the group.

Fur short, hairs of back only about 10 mm. in length.

Coloration as usual in East-African leopards, the general tone pale, the ground-colour along the dorsal area pale buffy

\* P. Z. S. 1903, vol. i. p. 294.

or cream-buffy, gradually passing into white on the belly and limbs. Spots small, more or less elongated on the anterior back; rosettes not well-defined or conspicuous. Spotting on limbs extending to the toes.

Skull conspicuously smaller than in any other known leopard, as shown by the measurements given below. Proportions generally similar to the larger forms, but the cranial crests less developed, there being practically no sagittal crest at all, while the upper part of the lambdoid crest is almost sessile on the brain-case, instead of being supported on a long projecting helmet. Zygomata more uniformly expanded, and consequently more nearly parallel, than in *pardus*.

Teeth as usual, except for their smaller size.

Length of flat skin of ♂ 1150 mm., of ♀ (type) 1070; tail, ♂ 650, ♀ 580.

Skulls:—

	♂ (young adult).	♀ (old).	<i>F. pardus</i> ♂ (yg. ad.)*.
	mm.	mm.	mm.
Greatest length .....	166	172	207
Basal length .....	142	142·5	173
Zygomatic breadth .....	105	101	123
Nasals, length .....	41	38	52
"    breadth .....	24	24	31
Breadth of brain-case .....	65	62·5	73
Palate length .....	75	75	92
Basal diameter of upper canine.	11	10	15
Horizontal length of $p^2$ .....	5·5	2·8	5·5
"    " $p^3$ .....	14·5	12·5	18
"    " $p^4$ .....	21·7	20	26
"    " $m^1$ .....	7	6	8·5
"    " $p_3$ .....	10·8	9·2	12·6
"    " $p_4$ .....	14·5	13·5	18·5
"    " $m_1$ .....	15·8	15·2	20

*Hab.* as above.

*Type.* Old female. B.M. no. 4. 5. 9. 35.

That a pigmy leopard occurred in Central Somaliland was first noticed by Capt. Johnston Stewart, of the 2nd King's African Rifles, who shot a specimen in the Dolbahanta country during the spring of 1903, and despatched it home to the National Museum. By some accident it never arrived, and almost immediately afterwards Capt. Stewart was killed by the Mullah's troops, and his invaluable services lost to his country.

Later on Major Dunn obtained the two specimens above referred to, but, looking on them as mere sportsman's trophies, did not take the measurements in the flesh. Fortunately,

\* From Kenya District, East Africa, presented by Dr. S. L. Hinde.

however, he preserved both the skulls, and, with his usual generosity, has given these and the typical skin of the female to the National Museum.

No described form of leopard at all approaches *F. p. nanopardus* in its diminutive size, unless the animal referred to by Matschie as "*F. pardus minor*"\*, from the Soudan, is similar. But as he does not give any description, his name in any case remains a *nomen nudum*.

#### 4. *Felis ocreata*, Gmel.

- ♂. 142. Gorahai.  
 ♀. 132. Gerlogobi.

#### 5. *Herpestes ochraceus persulvidus*, subsp. n.

- ♂. 140. Wardair, north-east of Gerlogobi, Central Somali.

"Sangom."

General colour uniform bright ochraceous on head, body, and outer side of limbs. Fur unannulated, bright ochraceous throughout, except that the extreme bases of the hairs are slaty and the tips are inconspicuously darker. Underfur slightly more rufous than the longer hairs. Under surface dull whitish, not sharply defined laterally, and washed down the middle line with pale tawny. Centre of face tawny ochraceous, a line above eye and another below grizzled whitish, the hairs being here alone finely annulated. Lips, chin, and interramia white. Back of ears dark brown, edged with buffy. Inner side of limbs dull whitish, like belly; upper surface of hands and feet bright ochraceous buff. Middle line of rump tawny ochraceous, passing into intense tawny on the tail, which is wholly of this colour except for the usual terminal black tuft.

Skull as in true *ochraceus*.

Dimensions of the type (measured in the flesh):—

Head and body 275 mm.; tail 220; hind foot 51; ear 25.

Skull: greatest length 58; basal length 54; zygomatic breadth 34; greatest horizontal diameter of  $p^4$  6.5, of  $m^2$  3.5.

*Type.* B.M. no. 4. 5. 9. 9. No. 140 as above. Collected 31st January, 1904.

This remarkably handsome mungoose is evidently the representative in the red sandy region of the Abyssinian *H. ochraceus*, and presents the extreme phase of the colour matching the region.

\* SB. Ges. nat. Fr. 1895, p. 190.

Intermediate between this extreme and the grizzled buffy of the Abyssinian *ochraceus* are two specimens from Northern Somaliland obtained by Messrs. Atkinson and Peel. Although intermediate, however, they seem to represent so definite a stage in the process of reddening as themselves to deserve a special subspecific name.

*Herpestes ochraceus fulvidior*, subsp. n.

Fur grizzled as in true *ochraceus*, except along a median area on the back about an inch in breadth, where it is nearly or quite unannulated. Colour of the head, fore back, and sides grizzled ochraceous, darker than in the typical form, of the median dorsal area strong tawny ochraceous, in continuity with the tawny of the tail. Under surface buffy whitish. Arms and legs externally like sides, internally like belly; upper surface of hands and feet pale ochraceous buff. Tail rich tawny, darkening terminally, the tip, as usual, black.

Skull as in *ochraceus*.

Dimensions of the type (measured in the flesh):—

Head and body 254 mm.; tail 242; hind foot 52; ear 26.

Skull: basal length 54.

*Hub.* (of type). Mandeira, south of Berbera. Alt. 3500 feet. Another specimen from Abori, near Eik, 5000 feet (*C. V. A. Peel*).

*Type.* Male. B.M. no. 97. 8. 9. 7. Collected 15th November, 1896, and presented by Dr. A. E. Atkinson.

An additional specimen of this group, from Jifa Medir, not far from Hargeisa (*R. M. Hawker*), is intermediate between *ochraceus* and *fulvidior*, and indicates that these different forms should not be separated specifically, as their striking differences in colour might tempt one to do.

Mr. de Winton\* had already referred to the Abori and Jifa Medir specimens under the name of *H. ochraceus*, Gray, which he rightly resuscitated as a distinct species from *H. gracilis*, Rüpp.

6. *Helogale Atkinsoni*, Thos.

♂. 146. Warandah.

7. *Helogale hirtula*, sp. n.

♀. 145. Gabridehari, 60 miles west of Gerlogobi, 7th March, 1904. *Type.*

\* *Ann. & Mag. Nat. Hist.* (7) i. p. 247 (1898), and *P. Z. S.* 1893, p. 763.

Closely similar to *H. Atkinsoni* in size and appearance, the general colour of exactly the same grey, although more coarsely grizzled. But the fur is longer, coarser, and shaggier, the hairs on the back attaining 18–20 mm. in length, as against 13–15, and the rings on them are broader, especially terminally. Thus in *H. Atkinsoni* each dorsal hair has a black tip of about 1.5 mm. long, succeeded by a white ring of about the same breadth, while in *H. hirtula* the terminal and subterminal bands are each 4–5 mm. in length. The effect of this difference is to make the general grizzling very markedly more coarse than in the finely ticked *H. Atkinsoni*. Head as in *H. Atkinsoni*, but a ring round each eye practically naked. Under surface as in *H. Atkinsoni*, except that the belly has a more strongly marked tendency to rufous. Limbs coloured as in the allied forms, but the ends of the digits, both fore and hind, are abruptly and prominently black to the base of the claws. Tail as in *H. Atkinsoni*, but, as on the body, the hairs are more coarsely ringed.

Skull rather larger than in *H. Atkinsoni*, but similar in details. Teeth decidedly larger throughout, the posterior teeth below conspicuously larger and heavier; the first lower molar in *H. Atkinsoni* is about 2.4 mm. in breadth, while in *H. hirtula* it is about 2.9, a very considerable difference.

Dimensions of the type (measured in the flesh):—

Head and body 230 mm.; tail 166; hind foot (s. u.) 48; ear 18.

Skull: greatest length 51; basal length 46.5; zygomatic breadth 31.5; breadth of brain-case 22; palate length 25.3; greatest diameter of  $p^4$  5.9, of  $m^2$  3.8, of  $p_4$  3.9, of  $m_1$  3.7, of  $m_2$  3.

*Hab.* and *type* as above.

This mungoose presents a curious problem, for it is so similar to *Helogale Atkinsoni* as to be readily mistaken for it; but the larger teeth, shaggier fur, coarser speckling, and the black digits compel me to consider it distinct. Its occurrence in the same country as *H. Atkinsoni* prevents its having merely subspecific rank.

*S. Lycaon* \* *pictus somalicus*, subsp. n.

♀. 143, 144. Gorahai.

\* I may take this opportunity to describe

*Lycaon pictus zuluensis*, subsp. n.

A small form profusely marbled with white on the back, as well as with yellow and black, which are present in about equal proportions.

Most nearly allied to *L. p. lupinus* of British East Africa, but rather smaller, as shown by the skull-measurements. Fur excessively sparse and short, the hairs of the back only about 10 mm. in length; how far this is seasonal remains to be seen, but no specimens from other localities have such short fur. General colour dark, the black and yellow of about equal extent, more closely and finely marbled than in *lupinus*, where the colours are in larger masses. No white patches on the upper surface of the body. Muzzle and centre of crown black as usual. Occipital dark line not continued through the nuchal yellow patch. Under surface almost naked, except on the throat; black, with indistinct white markings on the throat. Back of ears blackish, some yellowish hairs intermixed on the basal half. Fore limbs marbled black and white. Hind limbs buffy yellow above, the feet black and white, as in *lupinus*. Tail not forming a very thick brush, its short-haired yellow base shorter than the black mesial and white terminal portions.

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Fur long and coarse. Back of ears blackish. Coronal black streak prominent, but not passing down the nape. Under surface well-haired black, yellow, and white, the throat black without white hairs intermixed. Limbs marbled with black and pale buffy yellow. Tail with a large white brush, which occupies the greater portion of its length, the yellow basal portion being short and the median black segment almost obsolete.

Skull and teeth conspicuously smaller than in the allied southern forms, scarcely larger than in *L. p. somalicus*.

Skull dimensions: greatest length 192 mm.; basal length 171; zygomatic breadth 119; length of nasals diagonally 66; interorbital breadth 39; breadth of brain-case 65; palate length 93; length of upper carnassial on outer edge 21, of lower carnassial 24.

*Hab.* Zululand. Type from the Pongola River.

*Type.* Adult male. B.M. no. 2. 2. 8. 2. Collected 23rd March, 1896, and presented by Col. David Bruce, R.A.M.C. Two other specimens recently presented by C. D. Rudd, Esq.

This south-eastern form of hunting-dog is readily recognizable by its small size and the profuse white marblings of its upper surface. Such white markings as are present in *L. p. venaticus* of Central Cape Colony are quite few and inconspicuous, the general colour above being yellow with some black markings. The Nyasa form, which I assign to the true *L. pictus*, has, like *zuluensis*, the black and yellow in more equal proportions, but there are comparatively few white markings and the size is considerably greater.

In the type specimen the white markings are only present on the posterior half of the back, but in the two presented by Mr. Rudd they extend over the whole upper surface of the body.

It is noticeable that in the type specimen there is no trace of either of the upper anterior premolars (*p*<sup>1</sup>), a tooth present in every other skull in the Museum. The two examples from Mr. Rudd's collection are without skulls.

Skull comparatively small, the teeth also noticeably smaller than in *L. p. lupinus*.

Dimensions of the type (measured in the flesh):—

Head and body 890 mm.; tail 280; hind foot 193; ear 115.

Skull: greatest length 189; basal length 168; zygomatic breadth 115; length of nasals diagonally 60; interorbital breadth 40; breadth of brain-case 65; palate length 92; length of upper carnassial on outer edge 18·2 (in *lupinus* 21), of lower carnassial 20·7.

*Hab.* as above.

*Type.* Old female. B.M. no. 4. 5. 9. 10. Original number 143. Killed 22nd February, 1904.

This local race of the hunting-dog is readily distinguishable from the only named form allied to it, *L. p. lupinus*, by its short fur, smaller size, and smaller teeth. It is also more yellowish in its general colour than average specimens of *lupinus*, although some approach it in this respect. Both specimens are equally short-haired.

The yellow of *L. p. somalicus* is of the buffy tone also found in the Cape *venaticus*, while in *lupinus* it is of a richer and more orange hue.

### 9. *Mellivora ratel*, Sparrm.

♀. 136. Gerlogobi.

♀. 149. Gorahai.

### 10. *Xerus rutilus intensus*, subsp. n.

♀. 138. Gerlogobi Wells.

General colour above, of head, body, and outer sides of limbs deep vinaceous rufous, more or less similar to the rufous of the limbs and flanks of the ordinary N. Somali *rutilus* (*dabagalla*), but there is no distinct yellowish dorsal area as in that animal. Hairs of crown and back finely tipped with white. Under surface and inner side of limbs dull whitish, not sharply defined laterally. Face like body, the usual white markings above and below the eye and behind and at base of the ear well defined. Upper surface of hands and feet wholly rufous, little paler than the flanks. Tail rufous at base above and white below, the brush of the usual annulated brown and white.

Dimensions of the type (measured in the flesh):—

Head and body 226 mm.; tail 155; hind foot 50.

Skull: greatest length 51; basilar length 39; zygomatic breadth 29·7; length of upper tooth series 8·7.

*Hab.* Red sandy country of Central Somali. *Type* from Gerlogobi Wells.

*Type.* Old female. B.M. no. 4. 5. 9. 14. Original number 138. Collected 25th January, 1904.

This ground-squirrel differs strikingly from the ordinary Somali form by its wholly rufous colour and rufous feet, that animal having a grizzled yellowish area on the back and white feet. But there are some specimens showing a certain amount of rufous on the feet, and on the analogy of the red mongoose it would seem probable that intermediate links will be found to occur, so that for the present I regard it only as a subspecies.

On the same analogy I think it probable that the N. Somali *dabagalla*, Heugl., will be found to be subspecifically distinguishable from the original Abyssinian *rutilus*.

### 11. *Gerbillus* (s. s.) *Dunni*, sp. n.

♀. 139. Gerlogobi, 26th January, 1904. *Type.*

A typical hairy-footed *Gerbillus*, of a darker colour than the bright sandy forms hitherto known.

General colour dark sandy fawn, not unlike some of the *Dipodilli*, such as *D. Harwoodi*, Thos. Dorsal area darker, more slaty, but this may be due to the specimen not having attained its full pelage. Supraorbital and postauricular patches well marked. Under surface less thickly haired than usual, pure white, not very sharply defined laterally. Arms wholly within the white area which passes across the shoulder, but some of the hairs on the outer side of the forearms indistinctly buffy; hands pure white; claws longer than in the allied species. Hind limbs externally sandy fawn like the body, the inner aspect and whole of the feet white; soles with the usual hairy cushions of restricted *Gerbillus*, but their proximal halves are naked, the hairy part beginning along the middle line halfway along the metatarsus. Tail of average length, sandy coloured for its proximal half above and below, then blackened and crested above to the delicate terminal pencil, white below.

Skull as usual in this group.

Dimensions of the type (measured in the flesh):—

Head and body 90 mm.; tail 120; hind foot 28; ear 13.

Skull: greatest length 30.3; basilar length 22; nasals 10.7; interorbital breadth 6; palatal foramina 4.7; length of bulla 11.3; length of upper molar series 4.1.

*Hab.* and *type* as above.

This pretty little gerbille, which I have named after the



donor of the present most acceptable addition to our National Collection, differs from any of its group that I have seen by its darker and less bright sandy general colour. No true *Gerbillus* as now restricted has been described from Somaliland, the nearest being Rhoads's *G. pulvinatus* from Lake Rudolf, which may be distinguished from it by having the whole of the underside of its tail white. The general resemblance of *G. Dunni* to certain species of *Dipodillus* is very noticeable.

12. *Ammodillus* (g. n.) *imbellis*, de Wint.

*Gerbillus imbellis*, de Wint. Ann. & Mag. Nat. Hist. (7) i. p. 249 (1898).

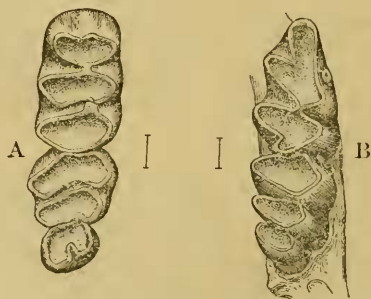
♂. 137. Gerlogobi Wells.

"In sandy soil close to wells."

Measurements in the flesh:—Head and body 106 mm.; tail 144; hind foot 27; ear 15.

Rather richer and deeper rufous than the type, which was collected by Mr. C. V. A. Peel at Gondar. The tail of that specimen having been imperfect, Mr. de Winton could only say of it "tail darker above than below, rather sparingly haired"; but I am now able to record that while it is very sparingly haired proximally, it changes terminally, and has a well-marked brown brush, the hairs of which may attain 8–10 mm. at the tip.

But, in addition, a further study of this gerbille convinces me that it cannot properly be included in any of the genera now recognized among the group, the characters of the skull, as detailed by the describer, especially the unique absence of the coronoid processes to the mandible, and the details of the dentition preventing its inclusion in *Dipodillus*, to which alone its naked soles ally it.



Right upper (A) and right lower (B) molars of *Ammodillus imbellis*.

Its upper molars have respectively three, two, and one separate laminæ, placed very obliquely, without any evidence of the more cuspidate character of the teeth of *Dipodillus*, though younger specimens are needed before they can be accurately described. Below the anterior molar is quite peculiar in shape (see figure B), its narrow anterior lobe and the minute secondary cusps present on its outer side and at its postero-internal angle being without any resemblance to what is found in *Dipodillus* or other members of the Gerbillinæ. The second lower molar has also a minute secondary antero-external cusp.

13. *Mus albipes*, Rüpp.

♂. 124. Harar.

14. *Mus* sp. (multimammate).

♂. 131. Jig-jiga.

15. *Acomys* sp.

♀. 150. Hargeisa.

A pale rufous form perhaps referable to *A. Hunteri*, de Wint.

16. *Acomys mullah*, sp. n.

♂. 123; ♀. 125. Harar.

Size fairly large. Spinous system less developed than usual, the covering of the head, nape, and fore back rather hispid than spinous, markedly less harsh than in the allied species; spines of back about 11 mm. in length. General colour of head, nape, and fore back pale slaty greyish, the spines of the hinder back becoming tipped with fawn-colour or vinaceous buffy; posterior flanks and outer side of hips more uniformly of the latter colour. Under surface and inner side of limbs wholly sharply-defined pure white; outer side of forearms to wrists and legs to ankles grey with a tinge of fawn; hands and feet white. Ears of medium size, much smaller than in *A. dimidiatus*. Tail thinly haired, grey above, white below.

Skull with a very large broad and flat brain-case, the ridges not unusually heavy. Palatal foramina very long, reaching nearly to the level of the posterior fourth of  $m^1$ .

Dimensions of the type (measured in the flesh):—

Head and body 111 mm.; tail 109; hind foot 18; ear 18.

Skull: greatest length 31.5; basilar length 24.6; zygomatic breadth 15; nasals 13; interorbital breadth 5.1;

breadth across parietal crests 13; palate length 15.5; diastema 8.7; palatal foramina 8.5; length of upper molar series 4.8.

*Hab.* Harar.

*Type.* Old male. B.M. no. 4. 5. 9. 19. Original number 123. Collected 6th November, 1903.

This spiny mouse seems to differ from any of the described species by its colour and its comparatively non-spinous nape, in which respect it approaches *A. Louise* of N. Somali. From the latter, besides its greater spininess, it differs by its much heavier teeth, the breadth of  $m^1$  being in *A. mullah* 1.6 mm. and in *A. Louise* 1.3.

17. *Heterocephalus glaber*, Rüpp.

♀. Hargeisa.

18. *Fornarina Phillipsi*, Thos.

♀. 133. Gerlogobi Wells.—Topotype.

(?) ♀. 141. Wardair.

The Wardair specimen is peculiar in several respects, but as it is an abnormally old individual nothing can be done with it until we have further evidence as to the cranial development that takes place with age.

The presence or absence and the time of eruption of the posterior molars in the *Heterocephalus* group are also rendered somewhat dubious by these most valuable specimens, but until further material is available I do not propose to commit myself to an opinion on the subject.

19. *Hystrix galeata*, Thos. (?).

Skull. ♀. 147. Gorahai.

20. *Lepus* sp.

♂. 122. Harar.

21. *Procavia Erlangeri*, Neum.

♂. 141. Harar.—Topotype.

22. *Procavia Brucei somalica*, Thos.

♂. 152, and skull 153. 50 miles south-east of Buroa.

23. *Cephalophus* sp.

♀ . 129. Fafan.  
Immature. *C. Grimmii* group.

24. *Madoqua Phillipsi*, Thos.

♂ . 126, 130. Harar.

25. *Madoqua Guentheri*, Thos.

♀ . 135. Gerlogobi.

XV.—*Descriptions of new Genera and Species of New Zealand Coleoptera.* By Capt. T. BROWN, F.E.S.

[Concluded from p. 59.]

## Group Otiorhynchidæ.

*Cecyrota alternata*, sp. n.

*Convex*, broadly ovate, opaque, densely covered with small depressed grey and pale slate-coloured squamæ and minute grey setæ; on the thorax these darker scales form an elongated central cross and near each side an irregular curvate mark; most of the elytral disk is also dark; the alternate interstices are, however, marked by numerous oblong grey spots. The general ground-colour is pale castaneous, but the legs and antennæ are usually ferruginous.

*Rostrum* stout, with a central linear impression and a dark basal spot. *Scrobes* short and well limited. *Scape* covered with white squamæ and slender elongate setæ; *funiculus* shining, with fine grey setæ, second joint obviously shorter than the first, but of similar form, 3-6 moniliform, seventh distinctly larger than the preceding one; *club* short, ovate, articulate. *Thorax* transverse, its sides regularly rounded, but at the base, near each side, there is a constriction which causes an evident gap between that point and the elytra; the base and apex are truncate. *Elytra* distinctly wider than the basal margin of thorax, a little dilated behind the shoulders, gradually narrowed posteriorly, scutellar region slightly elevated; they have series of moderately fine punctures, which towards the apices assume the form of striæ. *Legs* stout, of moderate length, covered with grey scales and